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TECHNICAL NOTE

Climatic Probability for Favorable Viewing Conditions Along Path of March 7, 1970, Eclipse

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The path for viewing the March 7, 1970, eclipse of the sun is shown on figure 1 together with locations at which weather conditions have been observed over a period of years. Climatic records for each location were studied to determine the probable occurrence of favorable weather for viewing an eclipse on March 7. The table within figure 1 indicates the percent of March-7 days that clear, cloudy, and rainy conditions can be expected and the mean percentage of sky covered on March 7. Only daylight hours were used in the computations except for rainy days which were based on 0.01 in. or more of precipitation in a full day. A clear day is one having 0-3 tenths of the sky covered and a cloudy day one having 8-10 tenths of the sky covered.

Interpretation of data. At Argentia, Newfoundland, the probability of a cloudy day is 0.68 and the probability of a clear day 0.14. Hence, the probability of a partly cloudy day, with 4-7 tenths of the sky covered by clouds, is 0.18. The probability of 0.01 in. or more of precipitation on March 7 is 0.55. Based on the position of the sun at the time of the eclipse and the probability that a certain amount of the sky will be covered by clouds, the probability that cloudiness will prevent viewing the eclipse is indicated in the last column as 0.75, or the probability of viewing the eclipse at Argentia is only 0.25.

Other climatic considerations. General climatic conditions for locations along the path of the eclipse must be taken into account for the March 7 date together with the elevation of exposure. Oaxaca de Juarez, at an elevation of 5,000 ft, has a low percentage of cloud cover. Salina Cruz and Minatitlan are both at low elevation, about 200 ft, but Salina Cruz on the Pacific coast has a greater probability of clear skies than does Minatitlan on the Gulf of Mexico coast. In general, the probability of cloudy skies increases northward and from inland locations toward Atlantic and Gulf coastal locations.

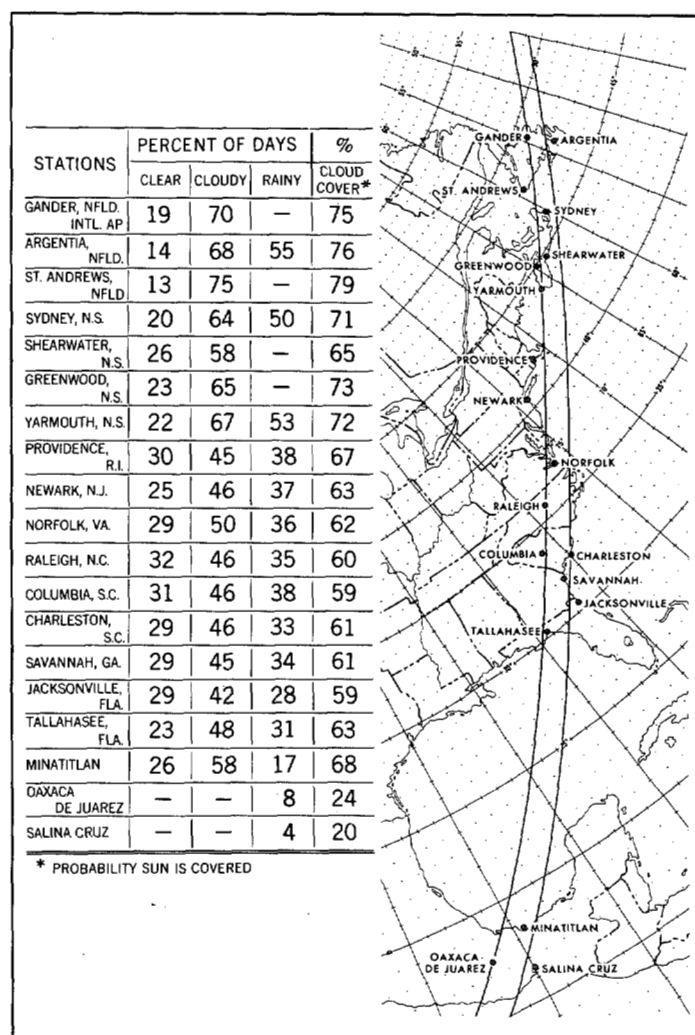


FIGURE 1.—Climatic probabilities for Mar. 7, 1970, and the path for viewing the eclipse of the sun.

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